

KIRKLEES CLIMATE CHANGE

The Science

What affects Kirklees's weather?



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Temperature – The high altitude of The Pennines to the west creates an environment that is frequently cool, dull and wet. However, the Pennines can cause the cloud to break up downwind, meaning warmer days but cooler nights.



Rainfall – Is higher than the average for England and is quite evenly distributed throughout the year. The greatest amount occurs in the autumn/winter months due to enhanced Atlantic storm activity. Rainfall associated with summer storms may be significant but localised.



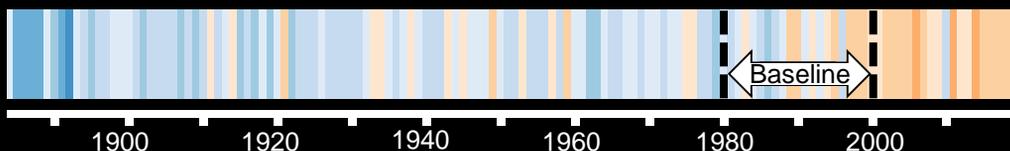
Snowfall – If low winter temperatures coincide with high winter precipitation, heavy winter snowfall may occur across Kirklees. Snowfall is greater in the upland areas, such as the South Pennines.



Wind – Kirklees is mainly sheltered from prevailing westerly winds by the South Pennines. Slack winds can cause fog formation in the Colne valley, while slight easterly winds can blow fog in from the Humberhead Levels.

How has Kirklees's climate changed?

The Kirklees* climate stripes show how annual average temperature has changed since 1884, compared with a baseline average between 1981 and 2000.



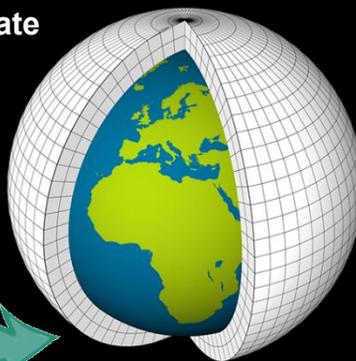
*Based on HadUK-Grid data for West Yorkshire

Scale: Temperature difference in °C



Calculating Kirklees's future climate

The Met Office uses computer models to simulate decades into the future. These models tell us that increasing greenhouse gas concentrations in the atmosphere leads to an increase in global temperature – the basis for climate change.

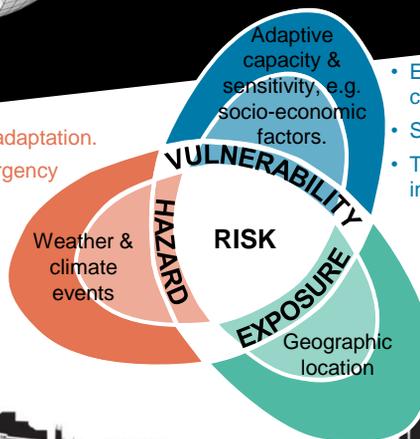


However, the climate is complex and small changes in global temperature can cause large changes to the weather patterns that we experience at a local level. To provide the best available information, multiple variations of the Met Office's latest global climate model are used to simulate the plausible future climate outcomes - this is known as a climate model ensemble.

Turning data into a decision:

The impact of a changing climate depends on three key factors - the hazard itself, exposure levels and vulnerability. Actions to reduce these could, for example, include...

- Mitigation & adaptation.
- Climate emergency declaration.
- Global emissions reductions.
- UK carbon neutral 2050.



- Empowered & engaged communities.
- Supporting livelihoods.
- Tackling health inequalities.
- Long-term & integrated planning.
- Nature-based solutions.
- Flood defence schemes.

This factsheet is part of a set of prototype products, aimed at building a foundation of shared understanding and promoting robust use of the available UKCP climate change information.

The Climate Change series includes: (sample city shown)

1 The Science

2 The Results Explained

3 UKCP Results

Find out more about ...

UK Climate Projections (UKCP)

- <https://www.metoffice.gov.uk/research/approach/collaboration/ukcp>

Factsheets headline findings for the wider UK

- <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-infographic-headline-findings-land.pdf>
- <https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/factsheets>

How to download and use the UKCP data using the Climate Projections User Interface (UI)

- <https://ukclimateprojections-ui.metoffice.gov.uk/ui/home>
- <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-guidance---how-to-use-the-land-projections.pdf>

The historical data used to produce the climate stripes

- <https://www.metoffice.gov.uk/research/climate/maps-and-data/data/haduk-grid/haduk-grid>

Representative Concentration Pathways (RCPs)

- <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-guidance---representative-concentration-pathways.pdf>
- https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter12_FINAL.pdf

OpenStreetMap

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